

Transforming Our Understanding of the X-ray Universe: The Imaging X-ray Polarimeter Explorer (IXPE)

Martin C. Weisskopf, Ronaldo Bellazzini, Enrico Costa, Giorgio Matt, Herman Marshall, Stephen L. O'Dell, George Pavlov, Brian Ramsey and Roger Romani, on behalf of the IXPE collaboration

Accurate X-ray polarimetry can provide unique information on high-energy-astrophysical processes and sources. As there have been no meaningful X-ray polarization measurements of cosmic sources since our pioneering work in the 1970's, the time is ripe to explore this new parameter space in X-ray astronomy. To accomplish this requires a well-calibrated and well-understood system that—particularly for an Explorer mission—has technical, cost, and schedule credibility. The system that we shall present satisfies these conditions, being based upon completely calibrated imaging- and polarization-sensitive detectors and proven X-ray-telescope technology.